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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/486,719	08/02/2000	PHILIPPE BOIRE	1247-0855-0V	2442

7590 12/26/2001

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EXAMINER
PIZIALI, ANDREW T

ART UNIT	PAPER NUMBER
1775	11

DATE MAILED: 12/26/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/486,719	BOIRE ET AL.	
	Examin r	Art Unit	
	Andrew T Piziali	1775	

-- The MAILING DATE of this communication appears on the cover sheet with th correspond nc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 November 2001* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-61* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-61* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 16-24, 30-32 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,777,779 to Hashimoto in view of Japanese Patent No. 08-083581 to Kiji.

Hashimoto discloses an all-solid electrochromic device colored or colorless, corresponding to an applied electrical field (column 1, lines 5-18). Hashimoto discloses that an anti-reflection coating is provided on the surface of the electrochromic device (column 3, lines 1-7). Hashimoto discloses the use of an anti-reflection film composed of a plurality of different kinds of layers on the surface of an electrochromic device (column 3, lines 1-7), but does not mention the use of alternating high and low refractive index materials. Kiji discloses an anti-reflection and anti-static film, possessing electromagnetic screening properties, composed of alternating layers of high refractive index and low refractive index films, used for various display devices (abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the coating disclosed by Kiji, on the glazing of Hashimoto, because the coating prevents surface reflection and static and reduces electromagnetic fields which are properties desirable in specific glazing applications. Hashimoto discloses a first or

second conductive layer of silicon oxide for attenuating the color of the glazing in reflection (column 4, lines 1-8).

Regarding claims 19-20, Hashimoto discloses that the coating includes a layer of yttrium oxide (column 3, lines 48-55).

Regarding claims 21-22, Hashimoto discloses a first and second conductive layer of silicon oxide (refractive index between 1.6 to 1.9) for attenuating the color of the glazing in reflection (column 4, lines 1-8).

Regarding claims 23-24, Hashimoto discloses a first or second conductive layer of tantalum oxide or silicon oxide having a tie-layer function (column 4, lines 1-8).

Regarding claim 24, Hashimoto discloses that that the carrier substrate may comprise a plastic material (column 2, lines 66-67 and column 3, line 1).

Regarding claim 31, Hashimoto discloses that the electrically controllable system is a superposition of functional layers placed between two carrier substances (column 2, lines 51-65 and column 6, lines 18-36).

Regarding claim 32, Hashimoto does not mention the use of a flexible substrate laminating at least one of the transparent carrier substrates, but Hashimoto does disclose the use of a transparent resin between the transparent carrier substrates and the electrically controllable system to adhere the transparent carrier substrates (column 6, lines 18-36). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a flexible substrate in place of the transparent resin, because the flexible substrate adheres the transparent carrier substrates.

Regarding claim 38, Hashimoto discloses the use of an electrochromic system (column 1, lines 7-9), but does not mention the use of an electrically controllable system in the form of a liquid-crystal system. It would have been obvious to substitute a liquid-crystal system for the electrochromic system of Hashimoto, because in applications such as liquid crystal display devices with filtering capabilities an electrically controllable liquid-crystal system would be necessary.

3. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of Kiji as applied to claims 16 above, and further in view of European Patent No. 692,463 to Chartier.

Hashimoto does not mention the use of a coating with hydrophobic properties. Chartier discloses the use of a hydrophobic-oleophobic coating, on a glass substrate, to give the glass substrate a non-wetting property (abstract). The hydrophobic-oleophobic coating comprises at least one hydrolysable fluorinated alkylsilane (abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the coating disclosed by Chartier, on the glazing of Hashimoto, because the coating gives the glazing a non-wetting surface property.

4. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of Kiji as applied to claims 16 above, and further in view of International Publication No. WO 97/10185 to Chopin.

Hashimoto does not mention the use of a coating with photocatalytic properties, but Chopin discloses a substrate coating with photocatalytic properties comprising titanium dioxide at least partially crystallized in the anatase form (abstract). It would have been obvious to one

having ordinary skill in the art at the time the invention was made to apply the photocatalytic coating of Chopin, to at least one of the external faces of Hashimoto glazing, because the coating would give the glazing anti-fouling properties.

5. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of Kiji as applied to claim 16 above, and further in view of U.S. Patent No. 5, 578,404 to Kliem.

Hashimoto does not disclose the use of a protective film on the transparent carrier substrate. Kliem discloses a liquid crystal display device that possesses a triacetate polymer protective film to protect the inside layers (column 14, lines 20-36). It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the polymeric protective film of Kliem, to the glazing of Hashimoto, because the film protects the glazing layers from the environment.

6. Claims 39-49 and 55-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,777,779 to Hashimoto in view of Japanese Patent No. 08-083581 to Kiji and in view of U.S. Patent No. 5, 578,404 to Kliem.

Hashimoto discloses an all-solid electrochromic device colored or colorless, corresponding to an applied electrical field (column 1, lines 5-18). Hashimoto discloses that an anti-reflection coating is provided on the surface of the electrochromic device (column 3, lines 1-7). Hashimoto discloses the use of an anti-reflection film composed of a plurality of different kinds of layers on the surface of an electrochromic device (column 3, lines 1-7), but does not mention the use of alternating high and low refractive index materials. Kiji discloses an anti-reflection and anti-static film, possessing electromagnetic screening properties, composed of

alternating layers of high refractive index and low refractive index films, used for various display devices (abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the coating disclosed by Kiji, on the glazing of Hashimoto, because the coating prevents surface reflection and static and reduces electromagnetic fields which are properties desirable in specific glazing applications. Hashimoto discloses a first or second conductive layer of silicon oxide for attenuating the color of the glazing in reflection (column 4, lines 1-8).

Hashimoto does not disclose the use of a protective film on the transparent carrier substrate. Kliem discloses a liquid crystal display device that possesses a triacetate polymer protective film to protect the inside layers (column 14, lines 20-36). It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the polymeric protective film of Kliem, to the glazing of Hashimoto, because the film protects the glazing layers from the environment.

Regarding claims 44-45, Hashimoto discloses that the coating includes a layer of yttrium oxide (column 3, lines 48-55).

Regarding claims 46-47, Hashimoto discloses a first and second conductive layer of silicon oxide (refractive index between 1.6 to 1.9) for attenuating the color of the glazing in reflection (column 4, lines 1-8).

Regarding claims 48-49, Hashimoto discloses a first or second conductive layer of tantalum oxide or silicon oxide having a tie-layer function (column 4, lines 1-8).

Regarding claim 49, Hashimoto discloses that that the carrier substrate may comprise a plastic material (column 2, lines 66-67 and column 3, line 1).

Regarding claim 56, Hashimoto discloses that the electrically controllable system is a superposition of functional layers placed between two carrier substances (column 2, lines 51-65 and column 6, lines 18-36).

Regarding claim 57, Hashimoto does not mention the use of a flexible substrate laminating at least one of the transparent carrier substrates, but Hashimoto does disclose the use of a transparent resin between the transparent carrier substrates and the electrically controllable system to adhere the transparent carrier substrates (column 6, lines 18-36). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a flexible substrate in place of the transparent resin, because the flexible substrate adheres the transparent carrier substrates.

Regarding claim 61, Hashimoto discloses the use of an electrochromic system (column 1, lines 7-9), but does not mention the use of an electrically controllable system in the form of a liquid-crystal system. It would have been obvious to substitute a liquid-crystal system for the electrochromic system of Hashimoto, because in applications such as liquid crystal display devices with filtering capabilities an electrically controllable liquid-crystal system would be necessary.

7. Claims 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of Kiji in view of Kliem as applied to claim 39 above, and further in view of European Patent No. 692,463 to Chartier.

Hashimoto does not mention the use of a coating with hydrophobic properties. Chartier discloses the use of a hydrophobic-oleophobic coating, on a glass substrate, to give the glass substrate a non-wetting property (abstract). The hydrophobic-oleophobic coating comprises at

least one hydrolysable fluorinated alkylsilane (abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the coating disclosed by Chartier, on the glazing of Hashimoto, because the coating gives the glazing a non-wetting surface property.

8. Claims 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of Kiji in view of Kliem as applied to claim 39 above, and further in view of International Publication No. WO 97/10185 to Chopin.

Hashimoto does not mention the use of a coating with photocatalytic properties, but Chopin discloses a substrate coating with photocatalytic properties comprising titanium dioxide at least partially crystallized in the anatase form (abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the photocatalytic coating of Chopin, to at least one of the external faces of Hashimoto glazing, because the coating would give the glazing anti-fouling properties.

Response to Arguments

9. Applicant's arguments filed 11/6/2001 have been fully considered but they are not persuasive. The applicant argues that the Kliem reference does not relate to an "all solid" electrochromic system, because it relates to a liquid crystal system. According to claims 37-38 and 60-61, the glazing system is to incorporate at least one electrically controllable system in the form of an electrochromic system or a cholesteric-gel system type, in the form of a liquid crystal system or cholesteric-gel system. The present invention relates to a glazing for either system according to claims 37-38 and 60-61. The Kliem reference is drawn to a liquid crystal system while the Hashimoto reference is drawn to an electrochromic device. Although the references

are not drawn to the same type of system they are both drawn to a glazing which incorporates an electrically controllable system having variable optical and/or energy properties. For these reasons the examiner finds the references to be related.

In response to the applicants argument that the protective layer of Kliem is between two rigid substrates rather than towards the "active" layer, the examiner directs the applicant to claims 33 and 39 which state that the glazing is to be provided with a protective film of the inorganic or polymeric layer type. The claims do not speak of the protective layer protecting towards the "active" layer.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Piziali whose telephone number is (703) 306-0145 and whose fax number is (703) 746-7037. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5665.

atp

December 4, 2001

DEBORAH JONES
SUPERVISORY PATENT EXAMINER